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THE WORK
OF THE
STATE BOARD OF HEALTH:

THE ANNUAL ADDRESS FOR 1878,

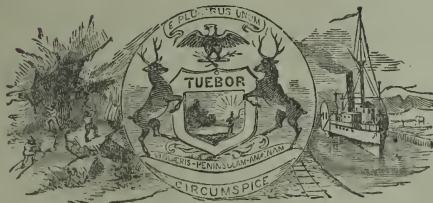
— BY —

R. C. KEDZIE, M. D.,

PRESIDENT OF THE BOARD.

[REPRINTED FROM THE SIXTH ANNUAL REPORT OF THE MICHIGAN STATE BOARD OF
HEALTH FOR THE YEAR 1878.]

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By R. C. KEDZIE, M. D.,

PRESIDENT OF THE BOARD.

[Reprinted from the Sixth Annual Report of the Michigan State Board of Health,
for the year 1878.]



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THE WORK OF THE STATE BOARD OF HEALTH.

The rules of the State Board of Health make it the duty of the president to deliver an address to the Board at the annual meeting in April each year. In the discharge of this duty it seems to me that it might be desirable to take a retrospect of the work performed by the Board, in order to consider what subjects in the immediate future demand the attention of the Board.

The State Board of Health has been in existence for five years. At the time of its organization a great variety of subjects commanded your immediate attention. As Adam and Eve, when they removed into a very new country, found

The world was all before them where to choose
Their place of rest;

So the Board found the largest liberty of choice of what to do, because everything was yet to be done. The nature and scope of the work of the Board had indeed been blocked out in the organic law; but the specialties of that work, and even the methods and instrumentalities for carrying them out had to be devised and set in motion.

The first effort of the Board was to reduce to system the work of the members of the Board, by appointing a number of standing committees on the general topics which would come before them for consideration. In this way each member was assigned to some field of inquiry and investigation most congenial to his habits and tastes; at the same time the field of state medicine was, to a certain extent, mapped out into distinct departments. This general plan of dividing up the work of the Board among a number of standing committees has been so successful in its working that every State Board of Health subsequently organized in this country has followed our example in this respect.

The second step of the Board was to organize the sanitary forces throughout the State by securing well organized and effective Boards of Health, wherever such Boards were not in existence, in all the cities, villages, and townships in our State, with an active health officer in each Board; and then to bring the State Board of Health into communication and active coöperation with all these local Boards of Health. Two prominent objects were to be secured by this means: (1.) To have an effective channel for imparting information to the people in a form which would most successfully reach the masses, by being placed in the hands of those who could appreciate and would use the information; (2.) To have organized bodies through which the statistics in regard to public health could be gathered from all parts of the State.

The third step of the Board was to enlist in the peculiar work of the Board all the physicians of the State and all other persons interested in sanitary matters. A corps of special correspondents was also secured in many prominent points in the State to gather more complete information on any subject relating to the public health.

The Board has sought to work through all these bodies and organizations for the advancement of the public health. Circulars giving information of great value, especially in regard to the prevention of disease, have been issued from time to time and sent to all local Boards of Health in the State, to local correspondents, and all others who seek to promote the public health; circulars asking for information on a variety of topics have been sent to the same Boards and persons.

These efforts both to impart information and to gather statistics bearing on the public health have met with gratifying success. Not only sanitarians but the people at large are grasping that very important and revolutionary idea, *the possibility of the prevention of sickness and death*, that many diseases may be prevented altogether, or that, when they do appear, they may as certainly be stamped out as a forest fire may be extinguished, or they may be walled in like an inundation. A people that fully grasps the idea that half of their sickness and half of their deaths may be prevented or avoided as truly and as really as they may prevent the destruction of their crops by cattle, by proper fencing, has taken a long stride in state medicine. The idea is germinal and will spring up in "trees of life whose leaves are for the healing of the nations;" for when men clearly see that they may honestly repudiate half the claims of sickness and death, they will soon learn to use the means for their own protection. That old cynic was right when he exclaimed "Skin for skin; yea, all a man hath will he give for his life." But the people need to clearly apprehend, and to fully comprehend one additional fact, that *each person is in the broadest and fullest sense healthy and safe only as every person about him is also healthy and safe*. The starved and neglected prisoner in jail or in workhouse, the despised or forgotten pauper in filthy hovel or wayside ditch, may vindicate their claim to our common humanity by making us heirs of all they possess, bequeathing to us the very diseases which destroyed them. Rowland Jenkes in the ill-kept and over-crowded Oxford jail, reeking with malignant typhus, when arraigned at the Oxford Assize, vindicated before that haughty court his claim to a common humanity by infecting judge and jury, lawyers, witnesses, and spectators with the dreadful fever contracted in their neglected and suffocating jail; for the whole court speedily died by this same fever, which spread through that city and the surrounding country till five hundred persons perished within six weeks with the fever imparted by this single prisoner. No wonder they called it "the black death," and that this court should go down in history as "the black assize of Oxford."

The lesson that society is an organic whole, and that "if one member suffers all the members suffer with it," the people are slow to learn. It was a murderer (and to conceal his murder) that first asked, "Am I my brother's keeper?" The spirit of that inquiry is in direct opposition to the cardinal principle of state medicine, that *EACH MAN IS SAFELY KEPT ONLY AS HE SAFELY KEEPS HIS BROTHER*. This is a simple lesson, but hard to learn, and still harder to remember. When it is well mastered and universally applied, the problems of state medicine will be greatly simplified.

The Board has also begun to gather reports of the prevailing diseases, for purposes of comparison and study. The reports required by law for the collec-

tion of vital statistics relate only to births, marriages, and deaths; and in regard to the latter, no return is required except "the disease or apparent cause of death," no account being taken of the remote causes of death, or of diseases which did not terminate fatally. It was a grand idea to pluck from the laurels of death a balm of healing, by thus comparing and studying the immediate causes of death. But if benefit is secured by investigation in so narrow a field, how much more would we be benefited by a study of the entire records of sickness of the people, the causes, concomitants, tendencies both immediate and remote,—the whole subject being studied both in regard to the causes of sickness and in relation to the prevention of the same. State medicine will never have reached its proper development till the social statistician, by means of returns which shall embrace all the diseases and known causes of such diseases, as well as the deaths and known causes of the same, shall be able clearly to point out how these remote causes have influenced and modified the immediate causes of death. This is a vast field, and it requires a broad grasp of mind to equate all the terms of so complex a problem.

The Board has also begun to gather data which shall exhibit the physical conditions, in this State, relating to health and disease,—the water-supply, the forest-growth, drainage, natural and artificial, temperature, rainfall, etc. A small but well distributed corps of meteorological observers give hope of valuable results in the near future. These physical conditions, which more or less directly influence the public health, are so wide-spread in their action, affecting the entire population of a district or even a State, as to demand careful consideration and investigation at your hands.

I have thus briefly passed in review some of the means by which the Board in its collective capacity has attempted to promote the public health and to discharge the obligations laid upon it when the law decreed that "The State Board of Health shall have the general supervision of the interests of the health and life of the citizens of this State." No more solemn charge was ever laid upon a body of men by our legislators, and the Board has not been unmindful of what the State demands at its hands.

Of the labors of the individual members of the Board I need say little, for these speak for themselves. By laborious and pains-taking investigations into the causes of sickness, the conditions involving insecurity to life and health, and by pointing out the way in which health may be more certain and life more secure, you have toiled on, often without appreciation or thanks from the very persons most benefited; and the Reports of your Secretary, from year to year, bear witness to the faithfulness and thoroughness of your work. I do not recall these things in any spirit of flattery: "So likewise ye, when ye shall have done all these things which are commanded you, say, We are unprofitable servants: we have done that which was our duty to do." A man is in poor business when he is bragging of having done his duty, and none of us will claim to have done more than our duty on this Board. But I have cast a hasty glance over some of the fields in which the Board has wrought, for the purpose of bringing more clearly before you this inquiry, *What subjects in the immediate future demand the consideration of this Board?*

I do not propose to bring before you all the subjects which might properly engage your attention, but to call up some matters which I believe may well command consideration at your hands at this time, or in the immediate future.

I.—STANDARD WORKS ON HYGIENE FOR PUBLIC SCHOOLS.

The law says, "They shall from time to time recommend standard works

on the subject of hygiene for the use of the schools of the State." So far from doing this "from time to time," we have not done it once. It seems to me that the imperative declaration of the law should be obeyed—unless obedience is impossible. The Secretary has been accumulating works on hygiene in our library, and it may be found that some of these are standard works fit to be used in the public schools. It may be found on examination that none of these works are of such a kind as to be well adapted for use in the schools. If this is the difficulty in the way of obeying the law, let us frankly say so and vindicate our law-abiding character. By pointing out the want of such a work on hygiene for use in common schools, we may possibly stir up some one to prepare such a work, and thus aid the cause we all have at heart. I recommend that this portion of the organic law be referred to a committee to report to this Board at an early date, either by recommending standard works on Hygiene, or by pointing out the inability of the Board to comply with the law.

II.—UTILIZING ACQUIRED MATERIAL.

Whenever information on subjects related to the public health has accumulated in such quantity that valuable results may be drawn from the study of the same, such results should *early* be given to the people. I emphasize the early publication, because of the temptation to hold back such results on the plea that the observations are still incomplete; but from the nature of the case such observations will forever remain incomplete. This is especially true in reference to observations on the physical conditions that influence the public health. It is said, for example, that the mean temperature of a place cannot be determined short of 25 years' observations, and even then it is not absolute but approximate. Shall we therefore make no attempt year by year to find the mean temperature of a place? The questions of health and life are not bounded and fixed by lines of mathematical precision; they fluctuate with the lines of approximate truths. I do not suppose that in attempting to garner some grain from these fields of physical inquiry we shall at once reap a rich harvest, nor that, as in tropical groves the shaken tree drops alike the golden orange and the fragrant flower into the outstretched hand, we shall gather the fruits and flowers of knowledge without toil or weary effort; but rather shall we gain the golden grains of truth as the miner, who washes away a mountain of concealing dirt to gather the little heap of precious glittering dust.

While fully aware how liable we are to run into error by deductions from too limited observations, I yet urge that some effort should be made to utilize these records, even though the results could only be regarded as tentative. He that soonest uses information will soonest acquire additional information. Nothing is more discouraging to an observer than to see no results issuing from the observations of many years. I have taken and forwarded to the Smithsonian Institution meteorological observations for the last 15 years without seeing that any use was made of them. I have reduced these observations to tabular form and published them for 15 years, with the settled conviction that not a score of men in our State have ever looked at these records or made the least use of them. From my own experience, therefore, I am convinced that an observer needs either great enthusiasm in his calling, or else some appreciative use of his work, to continue his pains-taking observations year after year.

We have a small corps of observers of the meteorology of our State, embracing the daily temperature, moisture, barometric pressure, atmospheric ozone, the rain-fall, cloudiness, etc. These report monthly. We have another body of observers who send in weekly reports of the prevailing diseases of their

several localities. What relation do these reports of the medical and meteorological observers bear to each other? Is there any causal element in the meteorological conditions which produces effects in the sanitary conditions? We shall undoubtedly find that the curves of temperature have a marked control over certain diseases, that a sharp rise of temperature increases diseases of the digestive system, while a rapid fall of the temperature increases diseases of the respiratory system. Statistics from many lands would lead us to expect this in our land. But let us not be content with this meagre result, let us push on to see if other causal relations may not be discovered. What influence has the presence or absence of atmospheric moisture on diseases of the respiratory, circulatory, or nervous systems? Is there any relation between the presence or absence of atmospheric ozone and the prevalence or absence of any disease? Does the amount of cloudiness have any influence on diseases of the nervous system? Do the barometric fluctuations have any effect on the circulatory and nervous systems?

These are some of the questions I hope to see brought before us by the combined study of our meteorological reports and of the weekly reports of prevailing diseases. I am not sanguine that the results will be apparent at first inspection, or that we shall reach any results without prolonged and careful study, even if we shall ever be able to satisfy ourselves on all these questions. But I am convinced that if the relations of these climatic conditions to the public health are ever determined, it will be by the combined study of meteorological conditions *and the prevailing diseases*, rather than by comparison of meteorological conditions with the mortuary records. A wider scope must be given to the study of vital statistics before results of the highest value are reached. I am glad to know that our hard-working Secretary has a part of this work already in hand.

I wish to see the meteorological reports combined with the vital statistics of all localities in our State as soon as practicable, for the reason that if these records accumulate year after year without any effort to use them, they soon become a mountain of rubbish, an incubus rather than an inspiration.

III.—VITAL STATISTICS.

In defining the duties of the Board, the law says: "They shall especially study the vital statistics of this State, and endeavor to make intelligent use of the collected records of deaths and of sickness among the people." State medicine has its foundation in the vital statistics of a people: the *tripod* from which the oracles of sanitary science are uttered, rests on the three-fold record of births, marriages, and deaths. It becomes, therefore, a matter of necessity, as well as a requirement of the law, that we should study these records, if we would promote the health and safety of the people.

The first and indispensable quality of statistics is *accuracy*. If the records upon which the vital statistics are founded are notoriously imperfect and inaccurate, the deductions drawn from such records will be proportionally unreliable, if not actually misleading. The causes of this inaccuracy inhere in the present mode of collecting the returns of births, marriages, and deaths. These have been brought to the attention of the Legislature, but without securing such changes in the law as seem necessary to secure full and reliable returns. By a few changes in the law, these returns could be made much more accurate, the work of compiling and editing the returns would be simplified, the vital statistics would be more valuable in themselves, and could be much earlier given to the public,—results very desirable to secure.

I recommend that the Committee on Legislation in the Interests of Public Health, and the Secretary, who is by law the Superintendent of Vital Statistics, be appointed a committee to prepare a bill which shall embody the changes required in the present law, and to bring this subject before the next Legislature.

IV.—GENERAL CIRCULAR ON DISINFECTION.

One of the principal duties involved in “the general supervision of the interests of the health and life of the citizens,” is to guard against the dangers of self-propagating diseases, or to prevent the spread of such diseases when they occur. One of the most important agencies in this latter work is the destruction of the communicable property of such diseases inhering in the dwellings, clothing, etc., of persons attacked by the disease. This requires the use of disinfectants. But the methods and uses of disinfection are so similar, whatever may be the self-propagating disease, that it seems to me that a general circular, giving full directions and precise instruction in regard to the methods of disinfection to be employed in every self-propagating disease, should be prepared and issued by this Board. It seems to me that the whole subject of disinfection could thus be treated more satisfactorily than by repeating these directions over and over again with every circular issued in regard to contagious diseases.

V.—PRESERVATION AND PREPARATION OF FOOD.

“What shall we eat, and what shall we drink,” are questions daily recurring in every household in the State. These questions do not come up mainly with reference to the gratification of the sense of taste: the health, the mental activity, and the effective force of the people depend very largely upon the food they eat. I am well aware that some persons regard it as gross and sensual to intimate that intellectual and moral activity bear any relation to so material things as beef and bread; but we may safely dismiss all sublimated nonsense about “the soul living above the body.” The law of the conservation of energy shows that force can be evoked only by the conversion of some other form of force. The soul can live above the body only by living out of the body, and over that condition of existence the State Board of Health does not have “the general supervision.”

America is the land of abundance; no other nation in all history has been more bountifully supplied with food-materials. Probably no other nationality has such rich provisions and such poor food as Americans. In my opinion, the question of food and its preparation for human use has more vital relation to the health and welfare of our people than all other physical causes combined. Leaving out of consideration the necessity of food to sustain life, badly cooked and ill-digested food is the cause of more ill-health, waste of time, loss of effective labor, whether muscular or mental, than all the combined diseases of adult life. The question of food relates to *every-day* life, while sickness pertains to exceptional periods in the life of our people. Errors in diet become the direct or remote cause of a great many diseases of the nervous and the circulatory, as well as of the digestive system; and they intensify the activity of many diseases which they do not cause. If our people could be taught to preserve and to prepare their food so as to secure the best dietetic results, preventive medicine would have won a grand victory. It could no longer be said that our appropriate monument would be a *frying-pan*, and our epitaph, *Saleratus!*

What the people need is not a cook-book, calcimined with French names till a plain man after ordering a dish is in doubt whether he shall receive a boiled

egg or a pickled frog. I think our food would digest just as well, if it was eaten in English. What is wanted is a tract which shall state the principles and methods of preserving food-materials so as to suffer the least change or loss of nutritive and digestive qualities; and the principles and processes by which such materials are converted into wholesome, palatable, and digestible food.

It is much easier to point out a want than to supply the want, and perhaps we may wait some time before such a tract will be prepared for the use of our people; but if we can push our preventive measures back even of the formative stages of disease, we shall do much toward securing a condition of general if not of universal health for our people.

VI.—SANITARY SURVEY OF THE STATE.

I call your attention to the necessity of a sanitary survey of the State at an early date, with some hesitation, because it is too great a work for the Board to undertake unassisted, and especially without an appropriation of money by the Legislature to defray the necessary expenses of such a survey. Yet this is a work in which the Board is deeply interested, and it is a work which must be done before the highest interests of the State, in a sanitary point of view, are subserved. Take the one subject of the relation of water to the public health: in a State where the public surveys designate about one-ninth the land surface as swamp, with innumerable small lakes and a very large number of small streams and rivers of moderate size penetrating the interior in all directions, none of them so large that they may not readily be obstructed by dams, bearing in mind that while swiftly running streams and deep lakes with banks free from marsh are agents of health, but that stagnant swamps and sluggish streams, whether the retarded current is natural or caused by artificial obstructions, are agents of disease, and that such sluggish streams may be needlessly formed in the midst of cities and villages, when by a little forethought they might have been kept at a safe distance from centres of dense population,—we begin to see how much benefit a sanitary survey may confer upon the whole people of our State. But to secure the greatest public benefit with the least private loss, it is necessary that this sanitary survey should be made before capital is invested extensively in works which from their nature or position must prove detrimental to the public health. For instance, it has been quite common in this State to build milldams in such positions that the health of a large part of the community soon requires the removal of the dam; then arises costly litigation, which if unsuccessful, leaves the nuisance unabated, and if successful causes the waste of property by destroying the mill. How much better to have it determined with reference to the public health where a mill may or may not be built.

The drainage of swamps, which has been undertaken solely for the reclamation of soil otherwise incapable of cultivation, has yet benefited the public health to such an extent as to have paid in money value on this score alone all that the drainage ever cost. If so much benefit to the public health has been secured by drainage undertaken solely for agricultural reasons, may not still greater benefit to the public health be secured by drainage undertaken for sanitary reasons?

The subject of the pollution of streams by sewage is a question of great importance in reference to the public health; but it is one that must be considered and settled before sewer systems become practically beyond control on account of the large outlay of money necessary to effect a change. The inertia of cities

and corporations on such subjects, when any radical change involves the throwing away of the large sums already invested and the expenditure of still larger sums in new systems, and all for so intangible and impersonal a matter as the public health, will prove an impassable barrier to desirable changes in the future. Detroit adopted a sewer system by which the sewage of the whole city was poured into the Detroit River. When anything was said about the contamination of the river-water, and that this water would become unfit for use by those living on the banks of the river below the city, the reply was ready that it was not possible to pollute such a mass of water by any amount of sewage. But the country above Detroit is becoming thickly settled; large villages dot the river bank, and manufactories of various kinds are springing up along the river; and the sewage from all these is poured into the river from which Detroit draws its water-supply. Just now there is no little excitement in the City of the Straits concerning contaminated water, and the fear is expressed that when the population along the river above Detroit becomes greatly increased the water of Detroit River will be unfit for domestic and potable use.

A similar trouble may yet vex the people of Lansing. The Grand River flows from Jackson through Lansing: this stream receives a certain amount of sewage from Jackson and this polluting material is reinforced as the stream flows past the State Prison, where the night-buckets of all the prisoners are emptied into a sewer which at once discharges the excreta of nearly 1,000 men into Grand River. I can see no necessity of this pollution of the river, for all this excremental matter might be sold to farmers for manure and removed without any expense to the Prison authorities.

Other proofs that a systematic pollution of our rivers has already been begun in our State might be brought forward, but they are not necessary; for any one can easily see that these evils will come in with an increase of our population, unless they are excluded by timely precaution on the part of the public authorities. The evil can be successfully resisted or averted only by early and combined opposition. RESIST THE BEGINNINGS OF EVIL is the demand of sanitary science on this subject. But some system of sewerage must be introduced and some means of disposing of sewage must be devised, on account of the demands of increasing population. These considerations tell strongly in favor of an early sanitary survey of the State.

The Rivers' Pollution Commission of England and the Committee of the State Board of Health of Massachusetts to "investigate the question of the use of running streams as common sewers in its relation to public health," show that such efforts to preserve the streams as rivers of life, are no novelty in this age. We are laying the foundations of a mighty empire, and its corner-stone should be PUBLIC HEALTH.

A sanitary survey will cost money. I know the people hesitate about voting money for such intangible objects as they consider sanitary matters to be; but *nothing is so economical as health, and nothing so wasteful as sickness*: a true economy will freely expend money to secure health.

VII.—SANITARY CONVENTIONS.

With a good deal of doubt and hesitation, I bring one more subject before you; namely, the holding of sanitary conventions, or meetings in different parts of the State, to consider and discuss sanitary matters. At these meeting papers shall be read by members of the Board, and others who are desirous of promoting the public health,—the papers to present in popular form the

more salient points of sanitary science; the discussions following each paper to be open, under proper restrictions as to time and question, to every person who either has information to impart, or who desires to gain information on the subject under discussion.

I hesitate in presenting the subject of sanitary conventions, for three reasons:

1. They are an untried experiment. I know we have the American Public Health Association in which men who have made a special study of sanitary science read papers and discuss subjects relating to the public health. While recognizing the great value of these papers and the excellence of the work done by the American Public Health Association, I only insist that these Sanitary Conventions occupy a different ground, in that *the sanitary laity* are represented, both in the papers and discussions, and the work is not confined to those who have made such matters their principal study. It may be said that the effort to popularize sanitary matters and to bring them down to the comprehension of the masses,—to make these topics such every-day and common-place affairs as that they shall enter into the daily thought and conversation of the common people to such an extent that their daily lives shall be modified and improved thereby—will be to degrade science and profane her mysteries. True science is never debased by contact with those it was sent to bless and save; and for one, I should be glad to see the day when these questions that lay hold on life shall be as freely discussed by the laity as they are now by the experts in sanitary science.

2. They will throw a large amount of work upon the members of the Board, and will make no inconsiderable demand upon their time. But unless all the members of the Board will give to these Sanitary Conventions all the labor and all the time their successful prosecution will demand, it will be useless to inaugurate the system. Knowing how much of labor and of time is now given to the public by members of the Board, I hesitate to ask of them still greater sacrifices of the same kind. For all such labors, the sense of benefits conferred upon the whole people must be its "own exceeding great reward;" for the State has no other that it will offer you.

3. These meetings may prove a failure from want of public interest in these subjects, or because we fail to properly present the facts and principles of sanitary science.

These are some of the considerations which would lead us to hesitate about attempting the untried experiment of holding such meetings.

On the other hand there are certain possible if not probable advantages which might be secured by such means.

1. We may in this way interest the people in sanitary work. I fear the work of the Board never really reaches the mass of the people. Six thousand Reports indeed are printed and distributed every year, but among a population of 1,500,000 this would be one copy for every 250 persons. But even of those who receive a copy of the Report, I fear that but few read it and master its contents. Somehow the people have learned to look upon "Pub. Doc's" as *literary lumber*, well adapted to fill an aching void on the library shelves, good to keep, and good for naught else. From the Patent Office Reports of the general government down through the documents "By Authority" of State governments, the public seem to regard them as official offscourings. But the State Board of Health that only reaches and influences the few, and comes short of benefiting the mass, fails of its duty: it is "the interests of the health and life" of the people that we are set to guard. I do not think this end could be

secured by merely issuing an increased number of copies of our Report. Certainly we could not ask the government to print a copy of the Report for every individual or even every family. There are other ways by which to reach the public ear, and one is by the public press. The State Board of Health needs recruits to win victories in sanitary science in every hamlet in our State; but no recruits from other quarters can equal in wide-spread influence the ubiquitous secular press. Just so far as we bring sanitary matters into popular form suited for publication in newspapers, I have found the press of this State eager to place them before their readers. By the public press we may reach every hamlet, aye, every household in our State.

2. We may in this way not only interest the people in our work, but induce them to practically apply the sanitary principles already brought out in our Reports and circulars. There is in every people a social inertia, a disposition to let things alone, a conservatism which regards everything as "good enough, well enough, time enough," which is the enemy of all progress. But if we can show the people that the dangers from the neglect of sanitary precautions—from the use of low-grade kerosene, of unventilated rooms, foul cellars, contaminated wells, ill-kept privies, from contagious diseases, etc.—are not distant and fanciful dangers, but that they threaten them now and in their very homes, that they walk by their side or dog their footsteps wherever they go, we shall break up this apathy and cause people to act,

*Act in the living present,
Heart within and God o'erhead!*

3. Another benefit from holding sanitary conventions will be that we shall secure the active coöperation of physicians and others interested in sanitary matters. We may hope to secure papers of great value from this class, which will add to the value of our Report. By securing the assistance of sanitarians in the convention, we shall also secure their aid out of the convention in all sanitary matters in their vicinity. The sanitary convention will thus react upon the public, setting many persons at work in different localities in the promotion of sanitary reforms.

By mingling with sanitarians in different places we shall best learn what work immediately requires to be done to promote the public health.

4. Another benefit which may be secured by these sanitary conventions is to exhibit and illustrate sanitary appliances, and to make the people practically acquainted with those that are now in use. Many sanitary appliances of much value confer but little benefit upon the public, because they are unknown and hence unused. No suitable means are now offered by which people may become familiar with the nature, kinds, and uses of devices designed to secure conditions of both health and comfort. Nor have the inventor and the manufacturer of sanitary appliances any direct means of bringing them to the notice of the people. At our agricultural fairs the inventor and the manufacturer of labor-saving machinery of every kind find a ready means to bring their implements to the notice of the public: the farmers also find there an opportunity to see the machinery, see it work, and how it works; to compare one machine with a competing machine, learn the price, where it can be bought, etc. In the same manner, let us bring the manufacturer of sanitary apparatus and the health-lover and health-preserver together, to the mutual benefit and enlightenment of both. Let us make the sanitary convention a sanitary fair, where may be exhibited every kind of appliance which directly or indirectly promotes

the health and well-being of the people. I would not restrict the exhibition to sewer pipes, ventilating cowls, and nose-skinning disinfectants. A good cook-stove is eminently a sanitary appliance; an improved sauce-pan or soup-kettle, a better can for preserving fresh fruit, a better lamp for saving our eye-sight, are each and all sanitary instruments. In short, any thing which will give us better food, purer air and water, cleaner clothes, sweeter and more restful sleep, is a sanitary appliance. The danger is that we shall make the field of our exhibit of sanitary appliances too narrow, instead of too broad.

5. Finally, in carrying out any sanitary reform, we need and must have the aid of the women of our State. When I make this statement, do not hastily suppose that I add my voice to the crowd who are shrieking for "woman's rights." I do not believe that our political and social evils are to be expiated by immediately putting forward woman as the sacrificial victim, following the example of Minos who exposed the Athenian virgins to be devoured by the Minotaur. Do not suppose that I advocate any such change in the constitution of this Board as will place representatives of the female sex among our number. I do not suppose that the efficiency of our Board or the success of our work would be promoted by such a change. But there are other fields where not one or two, but all the women of our State may aid this work. Whether we regard the objects of sanitary science as the removal of the cause and limiting the spread of diseases, or as the improvement of the physical condition of the people, in either work we need woman's helping hand. Woman makes the home, for her life is there; and the appliances and conditions of comfortable living come from her plastic hand. Except in his sleeping hours, man spends but a small fraction of his time in the house: he merely contributes, in their crude form, the materials for the family support, while it is the deft hand of woman that transmutes these dead materials into the family living.

In the introduction of most sanitary reforms among the people, we must rely upon the active, hearty, and intelligent coöperation of woman. To secure this, we need to awaken her interest in such reforms and cause her to comprehend the nature, scope, and needs of such reform. All these can best be accomplished by the presentation of sanitary principles in popular form, which can effectually be accomplished in these sanitary conventions. Whatever woman may have to contribute to the stock of sanitary science can be appropriately brought forward in these meetings, in which I should hope that women as well as men would be encouraged to take an active part.

The work of a sanitary convention must be confined to sanitary work. All questions of party politics, of denominational theology, and of curative medicine must rigidly be excluded both from the papers and the discussions. The field of preventive medicine and of the improvement of the physical condition of the people is broad enough to consume the entire time and attention of a sanitary convention.

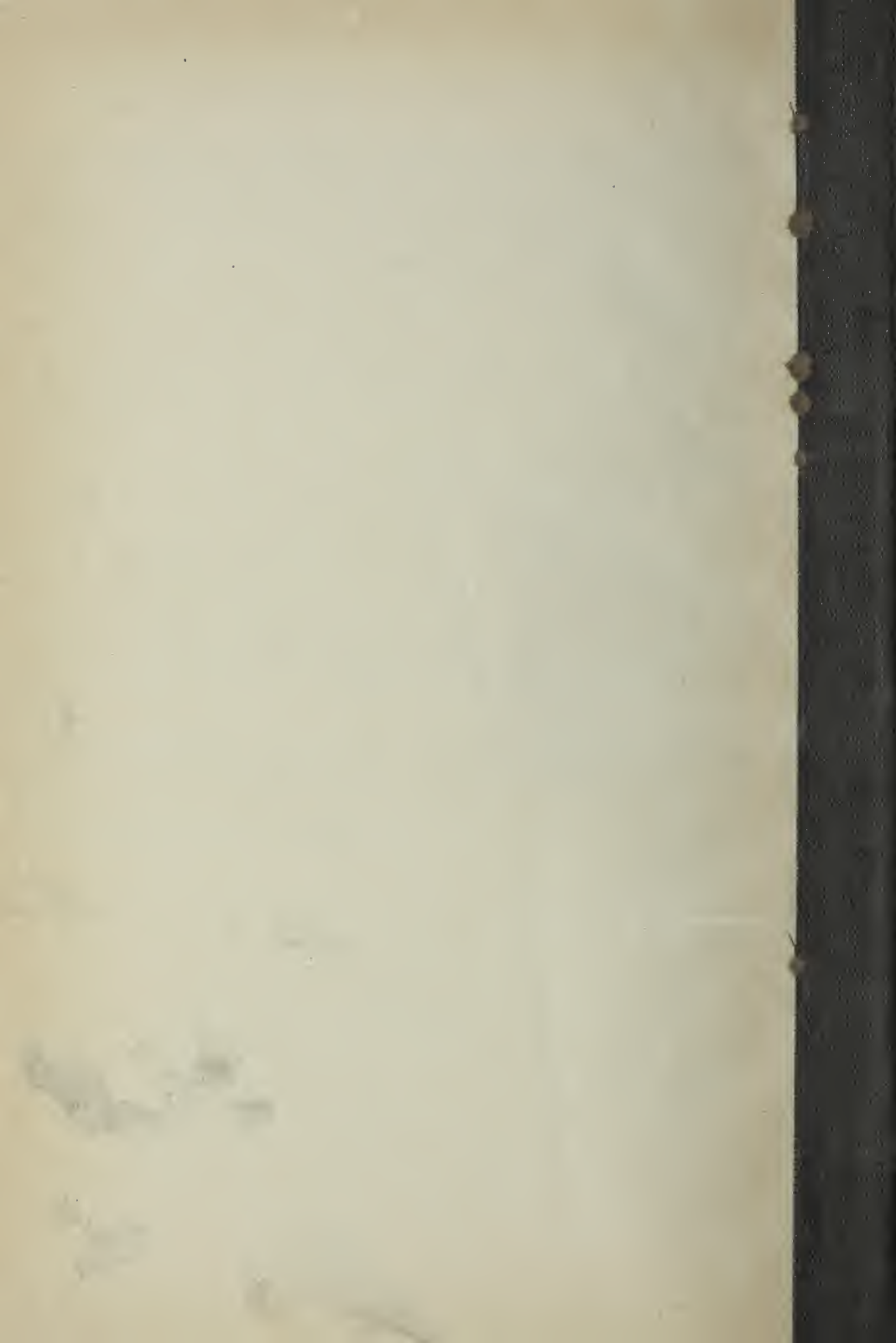
Such are some of the features of a sanitary convention as the thing has formed itself in my mind, and such are some of the considerations for and against your undertaking such a work. Perhaps it is wild, visionary, and impracticable; I do not ask you to adopt it at sight; I hope you will not reject it without consideration. The most I now ask of you is to appoint a committee, of which I shall not be a member, to carefully consider the whole subject, and report at some future meeting.

In all our plans for future effort we are not to forget that our work is advis-

ory, not mandatory. We command nobody but ourselves. In the legislative discussions which preceded the organization of the Board it was objected that the proposed Board would have no power to enforce its precepts, and hence would be a harmless thunderbolt. But among a free people the surest if not the quickest way to remove any great evil is to clearly point out the evil itself, its extent, and its effects; many interests, injured or at least threatened by the evil, without concert silently place themselves in opposition; a thousand eyes at once are turned to the examination of this evil and its tendencies; the social forces and instincts rise up in serried ranks like the armed warriors which leaped forth from bush and stone at the whistle of Roderick Dhu; that wonderful and complex phenomenon which we name "a change in public opinion," ensues, and the evil finds it must take itself out of the way, for it has no home amid a hostile people. In this way the wrongs which threaten society in mass, right themselves when brought to the bar of enlightened public opinion. Such rectifications are the more permanent and abiding because they take place by the action of natural laws, and not by the exercise of arbitrary authority. The silent forces are the most powerful; the noisy and loud-mouthed forces dissipate half their energy in the very noise itself. The boom of the cannon is *brag* but the silently whirling cannon-shot means *business*. Many persons seem to feel a sort of contempt for the sunshine—"good and useful, but so weak and powerless"—the strongest name by which they call it is "the *gentle* sunshine;" yet before the flashing lightning and rolling thunder the same persons turn pale with awe "because they are agents of such terrible power;" whereas the sunlight exceeds in energy, a thousand fold, the lightning, and, but for the hiding of the power of the sunlight, the lightning itself would die still-born.

The office of this Board is not to convulse the community with lightning-shock, but to let in the sunlight, which, "silent as the footfalls of time, yet resistless as destiny," shall mould and fashion the very conditions of life in our State.

AGRICULTURAL COLLEGE, April 3, 1878.



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